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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,957	03/31/2004	R. Scott Stephens	WEYE122661/25487	5876
28624 7590 12/28/2007 WEYERHAEUSER COMPANY INTELLECTUAL PROPERTY DEPT., CH 1127 P.O. BOX 9777 FEDERAL WAY, WA 98063			EXAMINER CORDRAY, DENNIS R	
			ART UNIT 1791	PAPER NUMBER
			NOTIFICATION DATE 12/28/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@weyerhaeuser.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/813,957	<b>Applicant(s)</b> STEPHENS ET AL.	
	<b>Examiner</b> Dennis Cordray	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/2007 has been entered.

### ***Oath/Declaration***

2. The oath or declaration submitted 3/31/2004 is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. The oath or declaration is defective because:

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

The originally submitted Oath recites the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56(a), rather than 37 CFR 1.56.

### ***Terminal Disclaimer***

3. The terminal disclaimer filed on 10/10/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of

U.S. Patent No. 6893473 is acknowledged. Upon its review and its acceptance, the Double Patenting rejection over U.S. Patent No. 6893473 will be withdrawn.

***Response to Arguments***

4. Applicant's amendments and arguments, see pp 5-8, filed 10/10/2007 have overcome the rejection of Claims 1, 6-8 and 17-19 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cook et al as evidenced by Farr et al. Cook et al and Farr et al do not disclose or make obvious dyed crosslinked fibers or the claimed whiteness index thus does not anticipate the claims. The rejection has been withdrawn.

Applicant's arguments, see 8-10, with respect to the rejection(s) of Claims 1-19 under 35 U.S.C. 103(a) as being unpatentable over Cook et al in view of others have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejection are made as detailed below.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 3-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 compares dyed crosslinked fibers treated with a bleaching agent with crosslinked fibers treated with a bleaching agent and not treated with a dye. It is not

clear whether the second fiber is treated with the same bleaching agent and dye in the same amounts and by the same process as the first fiber or whether different bleaching agents, dyes and processes are used with each fiber. One of ordinary skill could have envisioned many bleaching and/or dyeing treatments or sequences, some resulting in whiter fibers than others. The metes and bounds of the desired protection are indefinite as currently claimed.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-4, 6-11 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al in view of Westland et al (6300259) and further in view of Casey (Pulp and Paper Chemistry and Chemical Technology, 3<sup>rd</sup> ed, vol III, John Wiley & sons, 1981), Biermann (Essentials of Pulping and Papermaking, Academic Press, Inc., 1993), and Moser et al (4046502).

Cook et al discloses individualized crosslinked and bleached cellulosic fibers and a process for making the fibers comprising: applying a citric acid crosslinking agent and a crosslinking catalyst to a web of fibers, separating the web into individualized fibers, heating the individualized fibers to provide individualized crosslinked fibers, and bleaching the crosslinked fibers using hydrogen peroxide and sodium hydroxide. (abstract; col 11, lines 37-41; col 13, lines 22-25). Cook et al discloses that sodium

hypophosphite is used as a crosslinking catalyst (col 12, lines 7-12 and 28-30). Cook et al further discloses that the fibers are used to form absorbent products such as diapers, feminine care products, and tissues (col 17, lines 30-35).

Cook et al teaches that the citric acid crosslinking agent can cause discoloring (i.e., yellowing) of the white cellulosic fibers when treated at elevated temperatures and result in unpleasant odors (col 3, lines 33-40). Cook et al discloses that bleaching after crosslinking improves the product brightness and reduces odor (col 3, lines 41-52).

Cook does not disclose dyed, crosslinked and bleached fibers and does not compare dyed, crosslinked and bleached fibers with crosslinked and bleached fibers not treated with a dye.

Westland et al discloses a method of forming a crosslinkable cellulosic fibrous product comprising applying a crosslinking agent to a mat of cellulosic fibers, drying the mat so that no crosslinking occurs, separating the mat into individualized treated fibers, incorporating the individualized fibers into a fibrous web and heating the web to affect crosslinking (col 5, line 34 to col 6, line 6). Pretreatment or post treatment of the fibers with a dye is also disclosed (col 3, lines 8-12). Cellulosic fibers treated with a dye and a crosslinking agent, separated into individualized form and subsequently heated to provide crosslinking are thus known to one of ordinary skill from prior art.

Casey et al teaches that paper can be whitened by adding a blue dye because the dye is complementary to the natural yellow tint of pulp (p 1833, last par bridging to p 1834). Although the addition of a dye reduces total reflectance, Casey teaches that yellowness is about four times as important to the visual perception of whiteness than

total reflectance (p 1835, 2<sup>nd</sup> full par), thus a reduction of yellowness and an increase in whiteness is achieved by adding a blue dye. The blue dye can be added as a surface treatment or to the stock (par spanning pp 1834-1835). Casey also teaches that a small amount of blue dye or blue pigment is often added to the stock (which comprises the pulp fibers) and results in a pleasant effect because the average person prefers a blue-white to a yellowish white (p 1835, next to last par). Thus motivation is provided to whiten cellulosic fibers using a blue dye. Biermann also teaches that blue dye is often added to pulp to offset the tendency for pulp to be yellow (p 197, left col, 2<sup>nd</sup> par). Thus the use of a whitening agent to whiten cellulosic pulp fibers is well known to those of ordinary skill in the art.

Moser et al discloses azo dyes for the dyeing of stock (cellulosic fibers) or paper that have good fastness properties to bleaching, water, alcohol and light (Abs, col 13, lines 20-28; Claim 1). Numerous examples are given of blue azo dyes (cols 29-34, Examples 57-58, 67-68, 91-97 and 105-106).

The art of Cook et al, Westland et al, Casey, Biermann, Moser et al and the instant invention are analogous in that they are from the art of dyeing and bleaching cellulosic fibers.

It would have been obvious at the time the invention was made to a person with ordinary skill in the art to add a blue dye to the fibers to increase whiteness of the fibrous product prior to crosslinking in the process of Cook et al in view of Westland et al and further in view of Casey, Biermann and Moser et al to make the product more preferable to customers. It would further have been obvious to use a blue dye as taught

by Moser et al that has fastness to bleaching, light, water and alcohol to prevent the dye from being destroyed by subsequent bleaching and other aqueous processing steps as well as to provide fibrous products resistant to discoloring with time and usage by consumers.

Both bleaching and addition of blue dyes are known to those of ordinary skill in the art to counteract yellowing in and thus whiten cellulosic fibers. Motivation to whiten fibers is to provide a more desirable product to consumers. Regarding using multiple diverse steps to whiten the fibers, "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). MPEP 2144.06. Using similar reasoning, combining two processes, such as addition of a whitening agent (e.g.- a blue dye) and bleaching, for the same purpose would have been obvious to one of ordinary skill in the art.

Herein, all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Since both treatment with a blue dye and bleaching were known for whitening of fibers, it would have been obvious to one of ordinary skill in the art that combining the processes would result in increased whiteness over using either of the processes alone. In other words, it would have been



obvious to one of ordinary skill in the art to obtain a greater Whiteness Index for fibers treated with a blue dye, crosslinked and bleached over fibers that are crosslinked and bleached and not treated with a blue dye.

7. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al in view of Westland et al, Casey, Biermann, and Moser et al as applied to claims 1, 3-4 and 9-12 above, and even further in view of Chudgar ( "Dyes, Azo" Kirk-Othmer Encyclopedia of Chemical Technology) and von der Eltz et al (5512064).

Cook et al, Casey, Biermann, Westland et al and Moser et al do not disclose an azo metal complex dye.

Chudgar teaches that azo dyes are the largest class of organic dyes and are widely used in the textile and paper industries (Introduction), thus are well known in the art. Von der Eltz et al teaches that azo dyes and azo metal complex dyes are well known art and are completely familiar to one skilled in the art (col 5, lines 10-19).

The art of Cook et al, Westland et al, Casey, Biermann, Moser et al, Chudgar, Von der Eltz et al and the instant invention are analogous and pertaining to dyes used for cellulosic fibers. In the absence of limiting parameters not revealed in the current disclosure it would have been obvious at the time the invention was made to a person with ordinary skill in the art to add a blue azo metal complex dye as a functionally equivalent option to the formed web to increase whiteness of the fibrous product in the process of Cook et al in view of Westland et al and further in view of Casey, Biermann

and Moser et al and even further in view of Chudgar and von der Eltz et al as a functionally equivalent option to make the product more preferable to customers.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1 and 3-19 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/815159 in view of Cook et al and Farr et al ("Bleaching Agents" Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, 2003).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the referenced claims of the instant invention are fully encompassed by the claims of the copending application.

Claim 1 of the copending application is a product by process claim and thus emphasizes the product, whitened crosslinked cellulosic fluff pulp fibers, which become the fibers claimed in the instant invention with the application of a bleaching agent. The language of Claim 1 of the copending application (i.e.-comprising) does not preclude the

use of a bleaching agent. Cook et al teaches bleaching crosslinked fluff pulp to remove the yellowness caused by the crosslinking process and the bleaching agents used. Farr et al teaches that bleaching lightens or whitens a substrate through chemical reaction and that paper and pulp bleaching is a known process. It would have been obvious to one with ordinary skill in the art to modify Claim 1 of the copending application to include bleaching the claimed fibers of 10/815159 to further improve the whiteness and odor of the product as per the teachings of Cook et al.

Claims 3-6 of the instant invention read the same as claims 2-5 of the copending application after appropriate changes in the referenced claim numbers.

The language of Claim 6 of the copending application does not preclude the use of a bleaching agent as specified in Claim 9 of the instant invention and, other than the additional step in Claim 9 of applying a bleaching agent, the claims read identically. It would have been obvious to one with ordinary skill in the art to modify Claim 6 of the copending application to include a bleaching step after crosslinking for reasons previously given.

Claims 10-14 of the instant application read the same as Claims 7-11 of the copending application after appropriate changes in the referenced claim numbers.

Claims 17-19 of the instant application read the same as Claims 12-14 of the copending application after appropriate changes in the referenced claim numbers.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claims 1, 3 and 6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 6 and 7 of U. S. Patent No. 6893473 in view of Cook et al.

The instant Claims are directed to a product, whitened crosslinked cellulosic fluff pulp fibers treated with a whitening agent and a bleaching agent (Claim 1). The whitening agent is a blue dye (Claim 3). The fibers are citric acid crosslinked fibers (Claim 5).

The claims of U. S. Patent No. 6893473 are directed to a product, whitened fluff pulp comprising pulp fibers and a whitening agent (Claim 1). The fibers can be citric acid crosslinked fluff pulp (Claims 6-7). The whitening material is a blue dye (Claim 3).

The language of Claim 1 of the patent (i.e.-comprising) does not preclude the use of a bleaching agent. For the reasons given in the prior obviousness-type double patenting rejection, it would have been obvious to one with ordinary skill in the art to further treat the fibers claimed in U.S. Patent No. 6893473 by bleaching the fibers to improve the whiteness of the product.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
DRC

  
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